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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,073	03/24/2004	Xiaoyun Zhu	200313904-1	5369

22879 7590 03/08/2010

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EXAMINER	
TANG, KENNETH	

ART UNIT	PAPER NUMBER
2195	

NOTIFICATION DATE	DELIVERY MODE
03/08/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/808,073	ZHU ET AL.	
	Examiner	Art Unit	
	KENNETH TANG	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 February 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,6-10,12,13,15-19 and 21-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,6-10,12,13,15-19 and 21-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 4, 6-10, 12-13, 15-19, 21-35 are presented for examination.

2. This action is in response to the Amendment/Response on 2/16/10. Applicant's arguments have been fully considered but are moot in view of the new grounds of rejections.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 7, 9, 10, 16, 18, and 22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 10, 13, and 16 of U.S. Patent No. 7,146,353 B2 in view of Hill et al. (US 2004/0267897 A1), and further in view of Borowsky et al. (hereinafter Borowsky) (US 6,321,317 B1).

4. Claims 1, 3, and 4 of US 7,146,353 B2 disclose the claimed limitations of the Instant claim 1 and 7 except the features of "determining available resources of a networked computing system;" and using said available resources as part of the function that also is "in conformance with network bandwidth limitations". However, Hill discloses a processor-based method for allocating resources to a plurality of applications (see Abstract), comprises determining available resources of a networked computing system (lines 7-8 of [0023]); determining, for each application, required resources of the application (lines 9-17 of [0023]); determining an assigned subset of the available resources for each application as a function of the required resources of the application and the available resources, wherein the function reduces communication delays between resources of the subset of the available resources in conformance with bandwidth capacity requirements of the application and in conformance with network bandwidth limitations ([0023], [0207], [0208], [0210], [0067]); and associating the applications with the assigned subsets of resources ([0207], [0208], [0177]). One of ordinary skill in the art would have known to modify the claimed invention of US 7,146,353 B2 such that it would determine available resources of a networked computing system and use said available resources as part of the function that also is in conformance with network bandwidth limitations. The suggestion/motivation for doing so would have been to better manage the resource requirements of application running across the plurality of resources, to balancing the load between them, to more efficiently conserve bandwidth, thus, improving the overall system ([0017], [0020]).

5. US 7,146,353 B2 and Hill do not expressly disclose determining the assigned subset of available resources for each application is based on a linearized objective and wherein the linearized objective function includes a linear combination of variables.

6. However, Borowsky teaches determining the assigned subset of available resources for each application is based on a linearized objective, wherein it includes a linear combination of variables (Abstract; col. 1, lines 35-40; col. 2, lines 1-27; col. 4, lines 37-51).

7. One of ordinary skill in the art would have known to modify the existing system/method such that it would determine the assigned subset of available resources for each application is based on a linearized objective, wherein it includes a linear combination of variables, as taught in the reference of Borowsky. The suggestion/motivation for doing so would have been to provide an effective scheme to specifically calculate and determine the optimization of a path (see Abstract; col. 1, lines 8-11 and 35-44).

8. Instant Claim 9 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of U.S. Patent No. 7,146,353 B2 in view of Hill et al. (US 2004/0267897 A1) and further in view of Borowsky et al. (hereinafter Borowsky) (US 6,321,317 B1) (similarly to the rejection of instant claim 1 against claim 10 of U.S. Patent No. 7,146,353 B2).

9. Instant Claims 10 and 16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13 and 16 of U.S. Patent No. 7,146,353 B2 in view of Hill et al. (US 2004/0267897 A1) and further in view of Borowsky et al. (hereinafter Borowsky) (US 6,321,317 B1) (similarly to the rejection of instant claim 1 against claim 10 of U.S. Patent No. 7,146,353 B2).

10. Instant Claims 18 and 22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 4 of U.S. Patent No. 7,146,353 B2 in view of Hill et al. (US 2004/0267897 A1) and further in view of Borowsky et al. (hereinafter

Borowsky) (US 6,321,317 B1) (similarly to the rejection of instant claim 1 against claim 10 of U.S. Patent No. 7,146,353 B2).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 4, 6-10, 12-13, 15-19, 21-23, and 28-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Garg et al. (hereinafter Garg) (US 2005/0021530 A1).

12. The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

13. As to claim 1, Garg teaches a method for allocating resources to a plurality of applications, comprising:

determining, by a computer, available resources of a networked computing system, wherein the available resources comprise processing resources, networking resources, and storage resources (see Abstract; [0005]; Fig. 1);

determining, by the computer, for each application, required resources of the application (see Abstract; [0005]);

determining, by the computer, an assigned subset of the available resources for each application as a function of the required resources of the application and the available resources, wherein determining the assigned subset of available resources for each application is based on a linearized objective function that reduces communication delays between resources of the subset of the available resources in conformance with bandwidth capacity requirements of the application and in conformance with network bandwidth limitations, wherein the linearized objective function includes a linear combination of variables (see Abstract; [0005]; [0041]; [0050]); and

associating the applications with the assigned subsets of resources (see Abstract; [0005]).

14. As to claim 4, Garg teaches wherein the networking resources comprise network switches ([0081]).

15. As to claim 6, Garg teaches wherein the storage resources comprises a storage area network, wherein the storage area network includes at least one pair of redundant core switches

coupled to storage devices, the core switches coupled to the processing resources via a plurality of edge switches ([0081]).

16. As to claim 7, Garg teaches wherein assignment of the subset of available resources for each application is performed by solving a mixed-integer programming problem (Fig. 6, item 602; [0050]).

17. As to claim 8, Garg teaches wherein the available resources include network switches coupled with the available resources, and the mixed-integer programming problem reduces communication delays between resources of each subset of the available resources by reducing data traffic on network links that interconnect the network switches (see Abstract; [0005]).

18. As to claim 9, it is rejected for the same reasons as stated in the rejection of claim 1.

19. As to claim 10, it is rejected for the same reasons as stated in the rejection of claim 1.

20. As to claim 12, Garg teaches wherein the processing resources comprise servers each having at least one processor (processor in servers 112-118 or clients 104-108, etc.).

21. As to claim 13, it is rejected for the same reasons as stated in the rejection of claim 4.

22. As to claims 15-17, they are rejected for the same reasons as stated in the rejection of claims 6-8.

23. As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 1.

24. As to claim 19, it is rejected for the same reasons as stated in the rejection of claim 12.

25. As to claims 21-23, it is rejected for the same reasons as stated in the rejection of claims 6-8.

26. As to claim 28, Garg teaches wherein the network bandwidth limitations are expressed as linear constraints, and wherein determining the assigned subset of the available resources for each application is a linear optimization problem (see Abstract; [0005]; [0041]; [0050]).

27. As to claim 29, Garg teaches wherein determining the assigned subset of the available resources for each application is a mixed integer programming problem (Fig. 6, item 602; [0050]).

28. As to claim 30, Garg teaches wherein determining the assigned subset of the available resources for each application is based on the linearized objective function to reduce a number of hops between processing resources in the assigned subset ([0144]; [0005]; [0041]; [0050]).

29. As to claim 31, Garg teaches wherein the linearized objective function is provided by substituting products of binary variables in a non-linear objective function with replacement binary variables in the linearized objective function ([0143]; [0145]; [0149]).

30. As to claims 32-35, they are rejected for the same reasons as stated in the rejections of claims 28-31, respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

31. Claims 1, 4, 9-10, 12-13, 18-19, 28, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (hereinafter Hill) (US 2004/0267897 A1) in view of Borowsky et al. (hereinafter Borowsky) (US 6,321,317 B1).

32. As to claim 1, Hill teaches a method for allocating resources to a plurality of applications (see Abstract), comprising:

determining, by a computer, available resources of a networked computing system, wherein the available resources comprise processing resources, networking resources, and storage resources (lines 7-8 of [0023]; Fig. 1, items 101, 102, 103, 115, 116, 111; lines 3-6 of paragraph [0097]);

determining, by the computer, for each application, required resources of the application (lines 9-17 of [0023]);

determining, by the computer, an assigned subset of the available resources for each application as a function of the required resources of the application and the available resources, wherein the function reduces communication delays between resources of the subset of the available resources in conformance with bandwidth capacity requirements of the application and in conformance with network bandwidth limitations ([0023], [0040], lines 1-5 and 12-16 of [0069], [0207], [0208], [0210], [0067], [0158] and lines 1-10 of [0009]); and

associating the applications with the assigned subsets of resources ([0023], [0040], [0177]).

33. In summary of the above citations, Hill teaches a networking system for allocating a plurality of resources/machines to a plurality of application programs in an optimized manner and reduces communication delay. The system determines resource availability of each of the plurality of machines in the network. The resource requirements of the applications are also collected such that it can be determined which resource or resources of the plurality/set of resources (assigned subset of available resources) gets allocated to the applications in conformance with considering the network capacity and the network bandwidth requirements of each application.

34. Hill does not expressly disclose determining the assigned subset of available resources for each application is based on a linearized objective, wherein it includes a linear combination of variables.

35. However, Borowsky teaches determining the assigned subset of available resources for each application is based on a linearized objective, wherein it includes a linear combination of variables (Abstract; col. 1, lines 35-40; col. 2, lines 1-27; col. 4, lines 37-51).

36. Hill and Borowsky are analogous art because they are both in the same field of endeavor of network resource allocation and both are attempting to optimize its resource allocation. Thus, one of ordinary skill in the art would have known to modify Hill's network resource allocation system such that it would determine the assigned subset of available resources for each application is based on a linearized objective, wherein it includes a linear combination of

variables, as taught in the reference of Borowsky. The suggestion/motivation for doing so would have been to provide an effective scheme to specifically calculate and determine the optimization of a path (see Abstract; col. 1, lines 8-11 and 35-44). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hill and Borowsky to obtain the invention of claim 1.

37. As to claim 4, Hill teaches wherein the networking resources comprise network switches ([0031] and lines 4-7 of [0156]).

38. As to claim 9, it is rejected for the same reasons as stated in the rejections of claim 1.

39. As to claim 10, it is rejected for the same reasons as stated in the rejections of claim 1. In addition, Hill teaches a computer-readable medium configured with instructions for causing a processor of data processing arrangement to allocate resources to a plurality of applications ([0049]).

40. As to claim 12, Hill teaches wherein the processing resources comprise servers each having at least one processor (Fig. 1, item 101).

41. As to claim 13, it is rejected for the same reasons as stated in the rejection of claim 4.

42. As to claim 18, it is rejected for the same reasons as stated in the rejections of claim 1. In addition, Hill teaches a plurality of storage resources as part of the resources being allocated to the plurality of applications and network-coupled to the processing resources (Fig. 1, items 101, 102, 103, 115, 116, 111).

43. As to claim 19, it is rejected for the same reasons as stated in the rejections of claim 12.

44. As to claim 28, Borowsky teaches wherein the network bandwidth limitations are expressed as linear constraints, and wherein determining the assigned subset of the available resources for each application is a linear optimization problem (Abstract; col. 1, lines 35-40; col. 2, lines 1-27; col. 4, lines 37-51).

45. As to claim 32, it is rejected for the same reasons as stated in the rejection of claim 28.

46. Claims 6, 15, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (hereinafter Hill) (US 2004/0267897 A1) in view of Borowsky, and further in view of Varanasi et al. (hereinafter Varanasi) (US 7,443,799 B2).

47. As to claim 6, Hill discloses storage resources such as fixed storage 116, removable storage 115, ROM 103, etc., for a computer that is connected to a network with other computers (Fig. 1). However, Hill in view of Borowsky is explicitly silent in teaching wherein the storage resources comprise a storage area network (SAN), wherein the storage area network includes at least one pair of redundant core switches coupled to storage devices, the core switches coupled to the processing resources via a plurality of edge switches. Varanasi discloses a networking system that can route data such as client/server applications to a plurality of resource devices, wherein the system is well suited to include a topology such as a SAN with at least one pair of redundant core switches 570 coupled to processing device resources 590 via a plurality of edge switches 580 (col. 1, lines 19-41 and 55-67, col. 2, lines 1-7 and 48-53, col. 8, lines 57-67 through col. 9, lines 1-8, Fig. 5). Hill, Borowsky and Varanasi are analogous art because they both are in the same field of endeavor of a network communication system that allocates between a plurality of applications and a plurality of resources. One of ordinary skill in the art would have known to modify Hill in view of Borowsky's network communication system such that it would include a SAN, wherein the storage area network includes at least one pair of redundant core switches coupled to storage devices, the core switches coupled to the processing resources via a plurality of edge switches, as taught in Varanasi's network communication system. By definition, a SAN is an architecture to attach remote computer storage devices to servers in such a way that the devices appear as locally attached to the operating system. Sharing storage usually simplifies storage administration and adds flexibility since cables and storage devices do not have to be physically moved to shift storage from one server to another. Other benefits include the ability to allow servers to boot from the SAN itself. This also allows for a

quick and easy replacement of faulty servers, etc. Therefore, it would have been obvious to one of ordinary skill in the art to combine Hill, Borowsky, and Varanasi to obtain the invention of claims 5-6.

48. As to claim 15, it is rejected for the same reasons as stated in the rejection of claim 6.

49. As to claim 21, it is rejected for the same reasons as stated in the rejections of claim 6.

50. Claims 7-8, 16-17, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (hereinafter Hill) (US 2004/0267897 A1) in view of Borowsky, in view of Varanasi and further in view of Das et al. (hereinafter Das) (US 2005/0172291 A1).

51. As to claim 7, the existing combined method is silent wherein reducing the communications delay between resources comprises solving a mixed-integer programming problem. However, Das teaches a dynamic resource allocation system that allocates resources amongst a plurality of application entities such that mixed-integer programming is used for optimization (Abstract, lines 5-21 of [0028]). One of ordinary skill in the art would have known to modify Hill, Borowsky, Varanasi such that it would include mixed-integer programming, as taught in Das's resource allocation system. The suggestion/motivation for doing so would have

been to provide the predicted result of a dynamic, rapid, and optimal resource allocation in an automated fashion ([0002], [0005], and lines 5-21 of [0028]).

52. As to claim 8, Hill ([0031], [0207], [0208], [0210], [0067]) and Das (Abstract, lines 5-21 of [0028]) teaches wherein the available resources include network switches coupled with the available resources, and the mixed-integer programming problem reduces communication delays between resources of the subset of the available resources by reducing data traffic on network links that interconnect the network switches.

53. As to claims 16-17, they are rejected for the same reasons as stated in the rejections of claims 7-8, respectively.

54. As to claims 22-23, they are rejected for the same reasons as stated in the rejections of claims 7-8, respectively.

55. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (hereinafter Hill) (US 2004/0267897 A1) in view of Borowsky, and further in view of Husain et al. (hereinafter Husain) (US 2003/0126260 A1).

56. As to claim 24, Hill in view of Borowsky do not expressly teach wherein the required resources of each application is specified in resource requirements that include attributes of the processing resources, wherein the attributes specify processor type and processor speed. However, Husain teaches a distributed resource managing system wherein the required resources of each application is specified in resource requirements that include attributes of the processing resources, wherein the attributes specify processor type and processor speed ([0011]; see claim 3; Abstract). One of ordinary skill in the art would have known to modify Hill in view of Borowsky with the teachings of Husain, as they all are in the same field of endeavor of network resource management. The suggestion/motivation for doing so would have been to provide the predicted result of improving speed, reducing error, and thus increasing the reliability of information for system ([0009]). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hill, Borowsky, and Husain to obtain the invention of claim 24.

57. As to claim 25, Husain teaches wherein the resource requirements further specify storage patterns of files for each application, wherein determining the assigned subset is based on the resource requirements ([0072]).

58. As to claim 26, it is rejected for the same reasons as stated in the rejection of claim 24.

59. As to claim 27, it is rejected for the same reasons as stated in the rejection of claim 25.

60. Claims 29, 31, 33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (hereinafter Hill) (US 2004/0267897 A1) in view of Borowsky, and further in view of Das et al. (hereinafter Das) (US 2005/0172291 A1).

61. As to claims 29 and 33, Hill and Borowsky are silent wherein reducing the communications delay between resources comprises solving a mixed-integer programming problem. However, Das teaches a dynamic resource allocation system that allocates resources amongst a plurality of application entities such that mixed-integer programming is used for optimization (Abstract, lines 5-21 of [0028]). One of ordinary skill in the art would have known to modify Hill, Borowsky such that it would include mixed-integer programming, as taught in Das's resource allocation system. The suggestion/motivation for doing so would have been to provide the predicted result of a dynamic, rapid, and optimal resource allocation in an automated fashion ([0002], [0005], and lines 5-21 of [0028]).

62. As to claims 31 and 35, Hill and Borowsky do not expressly teach wherein the linearized objective function is provided by substituting products of binary variables in a non-linear objective function with replacement binary variables in the linearized objective function. However, Das teaches a dynamic resource allocation system that allocates resources amongst a plurality of application entities such that mixed-integer programming is used for optimization that involves substitution of variables in a linear optimization problem with some integer variables (Abstract, lines 5-21 of [0028]). One of ordinary skill in the art would have known to

modify Hill in view of Lee's resource allocation system such that it would include mixed-integer programming that involves substituting products of binary variables in a non-linear objective function with replacement binary variables in the linearized objective function, as taught in Das's resource allocation system. The suggestion/motivation for doing so would have been to provide the predicted result of a dynamic, rapid, and optimal resource allocation in an automated fashion ([0002], [0005], and lines 5-21 of [0028]).

63. Claims 30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al. (hereinafter Hill) (US 2004/0267897 A1) in view of Borowsky, and further in view of Lee ("Routing Subject to Quality of Service Constraints in Integrated Communication Networks", July/August 1995).

64. As to claims 30 and 34, Hill and Borowsky do not expressly teach wherein determining the assigned subset of the available resources for each application is based on the linearized objective function to reduce a number of hops between processing resources in the assigned subset. However, Lee teaches allocating network resources along an optimal path using an objective function, wherein the objective function may involve parameters such as the number of hops, cost, delay, or some other metric (see Abstract; page 46, 1st two paragraphs). It would have been obvious to one of ordinary skill in the art to combine Hill Borowsky, and Lee because it would provide an effective scheme to specifically calculate and determine the optimization involving the number of hops, delays, costs, etc. (see Abstract; page 46, 1st two paragraphs).

Response to Arguments

65. Applicant argues that the newly amended claim limitations are not taught or suggested by the current prior art.

In response, the applicant's amended claim prompted the new grounds of rejection, which render the argument moot.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- **Joslin et al. (US 6,272,483 B1)** teaches determining an assigned subset of available resources for each application is based on a linearized objective function having a linear combination of variables (see Abstract; claim 1).
- **Holendar et al. (US 6,069,894)** teaches determining an assigned subset of available resources for each application is based on a linearized objective function having a linear combination of variables (see Abstract; claims 39 and 44).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH TANG whose telephone number is (571)272-3772. The examiner can normally be reached on 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth Tang/
Examiner, Art Unit 2195